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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,820	06/18/2001	Tetsuo Ogino	001558(123)	2541

7590 05/19/2004
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EXAMINER

CHOOBIN, BARRY

ART UNIT	PAPER NUMBER
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2625

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,820

Applicant(s)

OGINO

Examiner

Barry Choobin

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 6, 10 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. For example see Specification page 14, lines 9-15 wherein "The local region is one containing the pixel of interest. The local region is defined as, for example, a one-dimensional series of pixels." how the data space constitutes a two-dimensional Fourier space converted to one-dimensional.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

Art Unit: 2625

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakshminarayanan et al in view of Avinash.

As to claim 1 representative of claims 5, 9 and 13, Lakshminarayanan et al disclose an image processing method comprising the steps of: defining in a plurality of modes a local region containing a pixel of interest in an original image (column 2, lines 8-11); sequentially for said region in the plurality of modes, obtaining the variance of pixel values and deciding whether the value of said variance falls within a predetermined range (column 9, lines 2-25),

Lakshminarayanan et al does not disclose expressly producing an image using as a new pixel value for said pixel of interest an average value of pixel values of the region for which the value of said variance first falls within said range.

Avinash discloses producing an image using as a new pixel value for said pixel of interest an average value of pixel values of the region for which the value of said variance first falls within said range (column 10, lines 35-60).

Lakshminarayanan et al and Avinash are combinable because they are from similar problem solving area of image enhancement.

Art Unit: 2625

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the method of Avinash to modify Lakshminarayanan et al by modifying signals or values representative of pixels in such images to provide a more readily understandable overall image in a computationally efficient manner.

The suggestion/motivation for doing so would have been improving technique for enhancing discrete pixel images in a computationally efficient manner (column 2, lines 14-16).

Therefore, it would have been obvious to combine Avinash with Lakshminarayanan et al to obtain the invention as specified in claims 1, 5, 9 and 13.

As to claims 2, 6, 10 and 14 Lakshminarayanan et al disclose region is a one-dimensional region (column 3, lines 30-41).

As to claims 3, 7, 11 and 15 Lakshminarayanan et al disclose the upper limit of said range is the variance of noise of said original image (column 10, lines 45-51).

As to claim 17, Lakshminarayanan et al disclose signal is a magnetic resonance signal (column 1, lines 14-17).

Claims 4, 8, 12 and 16 are similarly analyzed and rejected as claim 1. However, these claims require minimum variance or as recited in claim language "variance is smallest". Avinash discloses above limitation in column 10, lines 50-60.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5802218 to Brailean.

Art Unit: 2625

US 5262725 to Cuppen et al.

US 6160923 to Lawton et al.

US 6466687 to Uppaluri et al.

US 6246783 to Avinash.

US 6059729 to Stonger.

US 6256403 to Florent et al.

US 6704437 to He et al.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry Choobin whose telephone number is 703-306-5787. The examiner can normally be reached on M-F 7:30 AM to 18:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Barry choobin

May 6, 2004



**BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**